

FACT SHEET FOR NPDES PERMIT NO. WA0038776
Tidewater Vessel Repair Facility

Issuance Date: _____

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Tidewater Vessel Repair Facility
Facility Name and Address	Tidewater Vessel Repair Facility 6305 N.W. Old Lower River Road Vancouver, WA. 98666-1210
Type of Facility	Ship and Barge Repairing
SIC Code	3731
Discharge Location	Columbia River Freshwater Class "A" Latitude: 45° 37' 30" N Longitude: 122 ° 37' 30" W
Water Body ID Number	WA-CR-1010

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Tidewater Vessel Repair is a part of Tidewater Barge Lines (Tidewater) and has been in business on the Columbia River for over 60 years. Tidewater is the primary company that transports barges up the Columbia River and its tributary, the Snake River. Tidewater specializes in hauling commodities such as grain and fuels. Tidewater presently operates 18 towboats that range in length from 40 feet to 127 feet. Tidewater has a fleet of 120 commodity barges that range from 130 feet to 286 feet in length and vary in width from 42 to 84 feet. Both the towboats and the barges have exterior paints composed of polyurethanes, enamels, and some epoxies.

This individual shipyard permit will cover the pier side maintenance operations and the associate uplands with operations buildings and at the request of the permittee will now cover the solid waste container handling area. The existing stormwater permit, SO3000431, for the container operations will be cancelled upon issuance of this individual shipyard permit.

INDUSTRIAL PROCESS

No anti-foulant (copper) paints are used on either the tugs or barges. It is not necessary as all operations are in fresh water. No fouling marine organisms are present. The only fouling is minor amounts of slime and algae. The bottom paint used on this equipment is epoxy.

Some lead based paints have been used on the tow boats. The lead paints are old underlayment paints and were already on the tow boats as they were acquired from around the country. If an area of the tow boat is to be worked on, a lead test kit is used to determine if it is lead paint or not. These kits are kept shoreside.

The typical processes for waste generation are pressure washing, sanding, sandblasting or painting. In all of these activities paint scale or dust will be released from the surface of the towboats or barges. Recycling the wash water and proper containment of the waste material is necessary to prevent transport to waters of the state.

In review of the information submitted on the proposed addition of the solid waste container handling yard, it does not appear that new waste streams will be generated. The container yard is now fully paved with asphalt. Possible pollutants would likely be petroleum related as it has been for the previously permitted upland work area.

DISCHARGE OUTFALL

Tidewater has four distinct workstations that include a pier side work station, known as Barge 30 (near outfall 001), the drydock (outfall 002), Barge 50, (near outfall 002) and the upland area (outfall 003). Barge 30 contains an enclosed machine shop. However, other pier side workstations may be employed as needed. Locations may include Barge 30, Barge 50, or along

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the container dock. The added solid waste container handling area will have storm water that co-mingles with outfall 001.



(Barge #30 with interior machine shop and tow boat repair)



(Interior of Barge #30 Machine Shop)

The drydock is associated with Barge #50. This area is used for barge repair, painting and of course drydock activities.



(The interior of the drydock showing steel floors and sides)



(Barge #82 which is 272 feet x 42 feet at Barge #50 repair station)

Towboats are most often fueled at one of the fuel terminals in Portland, Oregon. When fueling is necessary at Tidewater, it is accomplished at either Barge 30 or at the container dock. The container dock is the loading area for containers of garbage to be towed upstream to the landfill in Morrow County, Oregon. Approximately 180 containers are transferred up river per week.

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All of the towboats have an "ecology box" for fueling. This box is a totally enclosed valve and fuel port so if any fuel spill occurs, none of the fuel enters the river. The excess fuel, if any, is drained internally within the vessel.

Other non-used barges are stored downstream along with a "clean rivers" spill barge.



(Interior view of the "ecology box" fueling couplings)



(Container dock showing fueling and containers in the background)



(New paving in the container yard)

The facility, at present, has one drydock. It is 160 feet in length and 56 feet wide. It is a floating unit with steel floors and wingwalls. The work surface is completely out of the water when floated and completely submerged when flooded. It is large enough to accommodate all of the tow boats and some of the barges. Sand blasting, pressure washing, painting, metal work and vessel repair occurs within this structure. Possible removal of septage, gray water, bilge water and other liquids may also occur here.

There is a possibility that prior to a washwater system being installed and operational, dry dock washwater will be collected and have proper off-site disposal. The Best Management Practices (BMP's) developed by Tidewater for the drydock appear to have adequately addressed the active uses and cleanup of the drydock prior to refloating the vessels.

Tidewater also performs pierside vessel and barge maintenance and repair. Included within this work area is painting and low pressure washing. This is also addressed within the BMP's developed by Tidewater. The pierside activity has the greatest risk of spill or discharge to the river. All areas to be worked on must be contained and tarped to prevent wastes or spills from entering the Columbia River.

The uplands of the site are composed of several storage and maintenance buildings. New bulk materials (paint) along with used parts are within these structures. Some metal fabrication is performed as needed. Outside storage is kept to a minimum. The ground surface was gravel, for the most part, with some minor paved areas. New stormwater catch basins are tied into the bioswale. This gravel yard was proposed to be paved in the spring/ summer of 2003 to hopefully eliminate turbidity violations. It is not fully paved as of early 2004 and turbidity violations still exist.



(New stormwater catch basin and previously unpaved yard area)



(New paving around a catch basin)

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The bioswale is designed for infiltration but a very heavy storm event may discharge out to the Columbia River near Barge #30. All stormwater enters at the upper end of the swale to allow for maximum retention of any oils or solids. The upper end of the bio swale is not producing a shared flow as designed down the length of the swale. The majority of the flow is being diverted to one side of it. Dead vegetation is present and very swampy conditions exist on both sides. Even though this swale has two French under-drains, very little percolation is occurring. Apparently the turbid storm water is not being well treated by this system. A separate discharge enters the bioswale about three quarters of the way down it. This discharge is not receiving a full treatment and its source is coming from an unpaved area. This may be a compounding reason why turbidity violations have been occurring.



(Bioswale looking towards the upper end and inlet pipe)



(Upper end of bioswale showing the majority of flow on one side)

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The yard area, beside the catch basins, has a concrete curb between the yard and the river. All stormwaters or spills will flow inwards to the site and the bioswale and not directly to the river.



(Yard area showing curbing)

The upland work area has yet to be fully developed as a large-scale fabrication area. Some fabrication is done but for the most part it is indoor activity. Some outside storage of used parts (boneyard) does occur but the area has been kept clean. This area may be expanded in the future as the need arises.



(Upland workstation and boneyard)

PERMIT STATUS

This is a previously permitted facility that has an individual shipyard permit. It was also covered by an Industrial General Stormwater Permit, SO3000431. The individual shipyard permit was issued on November 1, 2001 and expires in June 2003. The short duration is due to having this permit expire so that it can coincide with a basin issuance permitting approach. Once this individual permit is issued the General Stormwater Permit will be cancelled.

A renewal application for a permit was submitted to the Department on December 26, 2002. The application was reviewed and more information was needed with the addition of the container yard and a letter with that information which was received on February 27, 2003. It appears that there are not any new pollutants of concern from the addition of the container yard.

In review of the data record, six (6) turbidity violations were noted. This is likely due to the unpaved upland yard. The bioswale has not been effective enough to lower turbidity, on a continuous basis, to meet permit conditions. Tidewater proposed to pave the total yard in 2003 but the yard is not fully paved as of Spring 2004. Turbidity violations continue.

In the original permit application, lead and zinc were checked as likely being in the storm water. No data had been collected so total lead and total zinc were added to the required sampling to determine if these parameters were present and at what levels. No effluent limits were established with the previous permit, just monitoring. In review of thirteen data points for both parameters, lead was found to be at or below the method detection limit (Method ICP 220.2) of 5 or 6 µg/L. This is a very low lead value. The calculated end of pipe water quality chronic toxicity, based on an average hardness of 65 in the Columbia River, is 1.57 µg/L. In consideration of the 13 data points of very low lead values, lead will not be an effluent requirement and monitoring will not be necessary.

The water quality chronic limit for zinc was calculated to be 72.55 µg/L. The 13 data points collected show values as high as 50 µg/L. Zinc will still be monitored and will have an effluent limit of 72.55 µg/L.

STORMWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization

Parameter	Concentration
Turbidity	5 NTU over background
Total Oil and Grease	5 mg/L and no visible sheen
pH	6.5-8.5 standard units
Total Zinc	Chronic: 72.55 µg/L

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

DESIGN CRITERIA

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria.

The design criteria for this treatment facility are taken from information presented by SJO engineers of Portland Oregon. The bioswale is designed to treat a 6 month, 24 hr. storm with a rainfall of 1.5 inches. The peak flow from the swale is 1.4 cfs with a residence time of 9 minutes.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

The collection, treatment, and recycle of the pressure wash water has become a common practice at both shipyards and boatyards. This type of wastewater is prohibited to be discharged to surface waters of the state. Options are to recycle or pretreat prior to discharge to a sanitary sewer. No sanitary sewer is presently available to the Tidewater Vessel Repair Facility. Recycling the wastewater (in consideration of 173-220 WAC) is all known, available, and reasonable methods of treatment (AKART).

Tidewater Vessel Repair Facility will be required to follow, implement and improve as necessary the Best Management Practices (BMP's) developed for the operation. The drydock

will be thoroughly cleaned and inspected prior to refloating any vessel. All abrasives, paint chips and other solid wastes (welding rods, scrap wood, plastic, paper etc.) will be removed from the drydock and properly disposed of in shoreside solid waste receptacles. Cleanup of the drydock can be performed by either brooms or vacuums or a combination. No pressure washing or hosing of the drydock floor is permitted if the water is to be discharged to the Columbia River. No change in turbidity between the drydock and the receiving water is allowed. No visible sheens will be allowed. Photographs will be taken showing the cleaned condition of the drydock prior to launching a vessel. These photographs will be maintained in a logbook on site and be made available upon request by the Department of Ecology. Digital photographs are acceptable and Tidewater Vessel Repair Facility is encouraged to use this methodology.

Oil and grease discharges from permitted drydock operations have decreased over time due to good implementation of BMP's. Lake Union Drydock, Dakota Creek, Duwamish, FOSS and Northlake shipyards have all achieved oil and grease concentrations of less than 5 mg/L. Based on this achieved level of control and the best professional judgment of the department, and oil and grease effluent limitation of 5 mg/L is AKART for the flood water discharges from the Tidewater Vessel Repair drydock.

To minimize oil and grease discharges, the Department will establish oil and grease effluent limitation for stormwater from the upland bioswale of 5 mg/L. This level of control is also considered AKART.

All solvents used on site may be recycled or hauled off site for proper disposal. Zero discharge from the maintenance Barge #30 is considered AKART.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges storm water runoff to the Columbia River, which is designated as freshwater Class "A" receiving water in the vicinity of the outfall. Other nearby source outfalls include the discharges from VANALCO, an aluminum production facility. Significant nearby non-point sources of pollutants include storm waters from the rest of the industrial area. Characteristic uses include the following: fish migration, resident fish habitat, fish rearing, fish spawning, fish harvest, wildlife habitat, primary contact recreation, sport fishing, boating, commerce and navigation. Water quality of this class shall meet or exceed the requirements for all uses.

SURFACE WATER QUALITY CRITERIA FOR CLASS "A" FRESHWATER

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliforms	100 organisms/100 mL maximum geometric mean	
Dissolved Oxygen	8 mg/L minimum	
Temperature	18 degrees Celsius maximum or incremental increases above background	
pH	6.5 to 8.5 standard units	
Turbidity	less than 5 NTU above background	
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)	
Total Zinc (based on a hardness of 65 mg/L)	Acute	Chronic
	79.45 ug/L	72.55 ug/L

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA:

Pollutant concentrations in the proposed discharge should not exceed water quality criteria with technology-based controls, which the department determines to be AKART. Dilution factors are very large with the Columbia River and a mixing zone is not required.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity

tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the stormwater discharge as determined by the screening criteria give in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

If the Permittee makes process or material changes which, in the Department's opinion, results in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the permit renewal. Toxicity is assumed to have increased if WET testing conducted in response to rapid screening tests fails to meet the performance standards in WAC 173-205-020 "whole effluent toxicity performance standard".

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge is unlikely to contain pollutants or chemicals regulated for human health.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has not been able to determine through the discharger's application of effluent characteristics whether the discharger has a reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

The Department believes the Permittee's discharge to the bioswale does not have the potential to cause a violation of the Ground Water Quality Standards and has imposed the following monitoring conditions for overflow from the system in the proposed permit:

Turbidity -- less than 5 NTU over background conditions.

pH -- 6.5-8.5 standard units

Oil and grease -- 5mg/L

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

Monitoring for metals, oil and grease, turbidity and pH is being required to further characterize the effluents of both the stormwater and the flooding of the drydock. These pollutants may have an impact on the quality of the surface water.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, significance of pollutants, and cost of monitoring.

The permit requires the Permittee to monitor the storm water outfall on a once per month basis. This schedule is consistent with Pacific Fishermen and Fishing Vessel Owners Marine Ways.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals and products that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under authority of RCW 90.48.080, that the Permittee develop a solid waste plan to prevent solid waste from causing pollution of waters of the state. The plan

must be submitted to the local permitting agency for approval, if necessary, and to the Department.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.
1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to issue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on August 10, 2003 and August 17, 2003 in *The Columbian* to inform the public that an application had been submitted and to invite comment on the issuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on April 29, 2004 in *The Columbian* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6291, or by writing to the address listed above.

This permit and fact sheet were written by Greg Cloud.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for "all known, available, and reasonable methods of treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at <http://www.wa.gov.ecology>.

APPENDIX D--RESPONSE TO COMMENTS

No comments were received.